

# DEPENDABLE INFRASTRUCTURE

## GOAL

Maintain levels of service commensurate with growing community requirements at optimum life-cycle costs.

City funds and staffs infrastructure maintenance

So that...

Infrastructure monitoring indicates good conditions

So that...

Kirkland has well maintained and sustainable infrastructure that meets the functional needs of the community

MEASURE	2013	2014	2015	2016	2017	Target
Transportation Capital Projects Funding	\$12,848,300	\$11,917,000	\$11,089,300	\$28,835,500 <sup>1</sup>	\$33,555,200 <sup>1</sup>	N/A
Water/Sewer Capital Project Funding	\$5,080,070	\$5,597,000	\$5,679,000	\$4,477,000	\$7,905,000	N/A
Surface Water Capital Project Funding	\$4,899,200	\$3,382,300	\$2,360,900	\$2,531,900	\$4,818,000	N/A
Street Maintenance crew FTE's per 100 lane miles	3.23	3.23	3.07	3.07	3.14	N/A
Water/Sewer Maintenance crew FTE's per 100 miles of water and sewer mains	5.55	5.44	5.54	5.59	5.66	N/A
Pavement Condition Index for Major and Minor Arterial Streets	62.3	62.6	77.0 <sup>2</sup>	79.0	77.5	70 <sup>3</sup>
Pavement Condition Index for Collectors and Neighborhood Streets	74.7	72.8	78.3 <sup>2</sup>	80.2	80.0	65 <sup>3</sup>
Residents surveyed rate street maintenance as satisfactory or better	N/A <sup>4</sup>	82%	N/A <sup>4</sup>	82%	N/A <sup>4</sup>	90%
Water Main Breaks	2	2	2	4	5	0
Sewer Obstructions	2	2	1	0	0	0

<sup>1</sup> The CIP funding for 2016 & 2017 includes a reliance on city funding, external funding (developer improvements or direct contributions), secured and unsecured grants – the unsecured grant category has proven to be somewhat optimistic with 2016 at 21% in developer contributions, 17% in secured grants and 6% in unsecured grant funding; 2017: 31% developer, 9% secured grants and 14% unsecured grant funding. New strategies will be proposed for 2018.

<sup>2</sup> The increase in PCI results from a combination of improved conditions and a change in survey methodology.

<sup>3</sup> The optimal target for PCI, in terms of life cycle costs, is approximately 80. Given the new PCI survey, staff recommends changing the target to 80 in the future.

<sup>4</sup> Community Survey conducted in even years.

## HOW DO WE MEASURE DEPENDABLE INFRASTRUCTURE?

The City of Kirkland relies on four measures to determine how well it is maintaining its residents' infrastructure.

- The Pavement Condition Index measures the health of the street network
- The number of water main breaks in the previous year measures the condition of the City's water delivery system.
- The number of sewer obstructions in a given year measures the effectiveness of sewage treatment system.
- A biennial, statistically valid survey measures residents overall satisfaction in their local government and the services they get from it.

The availability of funding and staff directly affects how well the City of Kirkland can maintain these essential services.

## HOW ARE WE DOING?

Kirkland voters approved a permanent property tax levy in 2012 to fund the City's street maintenance and pedestrian safety measures. Since that year, the Pavement Condition Index, which measures the street network's condition, has improved. The condition of major and minor arterials improved from 60.8 in 2012 to 77.5 in 2017. The Pavement Condition Index score for collectors and neighborhood streets has improved as well—from 76.1 in 2012 to 80.0 in 2017. Despite this, citizens' satisfaction of street maintenance has remained below the 90 percent target. The improvement of Kirkland's street network score on the Pavement Condition Index results from two factors. The first is a successful pavement maintenance program. The second is a change to the way Kirkland measures its streets' conditions.

Throughout the last couple of years, water main breaks and sewer obstructions have been rare. Kirkland's water delivery system suffered from five water main breaks in 2017. Its sewer system had no sewer obstructions in 2017. Kirkland's goal is zero incidents per year.



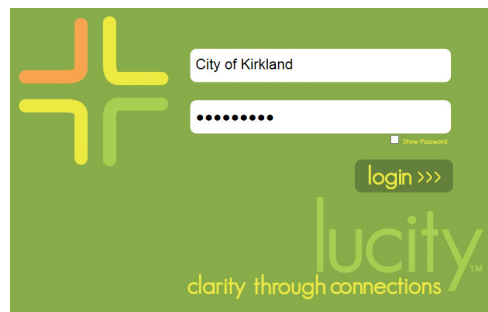
Kirkland's Capital Improvement Program lays the groundwork for redevelopment and maintains the infrastructure that enables residents to enjoy high qualities of life. That infrastructure includes the City's drinking water, sewer and stormwater systems, as well as its transportation systems—streets, sidewalks, trails and connections.

The 2012 Streets Levy is essential to the maintenance of this infrastructure. It empowers the City of Kirkland to maintain streets that would otherwise deteriorate, while expediting progress toward Kirkland's ambitious 20-year goals for walking and bicycling safety. In 2017, for example, Kirkland's capital improvement program repaved seven lane-miles of its more traveled streets and extended the useful lives of 13.2 lane miles of its residential streets. It also improved sidewalk access for all pedestrians by upgrading 66 sidewalk curb ramps to Americans with Disabilities Act standards, installing three new sets of rapid flashing beacons.

## WHAT ARE WE DOING?

Having begun in 2015, the City's \$1.4 million investment in a multi-departmental Maintenance Management Information System (MMIS) was completed in the fall of 2017 with the launch of Lucy. The three-year implementation process required detailed documentation of industry best practices and inventories of a number of assets beyond those already kept. Streamlining paperwork, staff communication, and improved responsiveness to citizen requests were key elements that have been able to be implemented with the new system. Complete integration with the City's robust Geographic Information Systems (GIS) is now a key function of the System allowing real time updates of asset conditions and status of work.

Lucy is now being used by more than 140 City employees in four departments (Information Technology, Parks and Community Services, Public Works, and Facilities within the City Manager's Office). The system efficiently tracks nearly 600 work processes from sweeping streets to exercising fire



hydrants and valves; from inspecting park playground equipment to business grease traps; from repairing HVAC systems within the Kirkland Justice Center to flashing pedestrian crosswalk lights. It allows City staff to record, track, monitor, and to proactively plan activities required to keep the City's myriad of infrastructure assets functioning at their best. While concurrently tracking the resources/parts/vehicles required to maintain the City's existing infrastructure, it will allow staff to document best management practices, staff accordingly, and develop annual work plans centered on keeping the City's growing infrastructure inventory running efficiently and at the best value to the community.

